UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/716,840	11/18/2003	Matthew Marcus	07844-619001	7089

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EXAMINER
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ART UNIT	PAPER NUMBER
2166	

DATE MAILED: 05/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	10/716,840	MARCUS, MATTHEW
	Examiner	Art Unit	
	Usmaan Saeed	2166	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 November 2003*.

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-40* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-40* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 November 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date *11/18/2003*.

4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1.   Claims 1-40 are pending in this office action.

Information Disclosure Statement

2.   Applicants' Information Disclosure Statement, filed on 11/18/2003 has been

received, entered and considered. See attached form PTO-1449.

Claim Objections

3.   Claim 27-28 and 35-36 are objected to because of the following informalities:

Claims 27 and 35 and claims 28 and 36 are repeating exact same limitations.

Appropriate correction is required.

Claim Rejections - 35 USC § 101

4.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
> matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
> conditions and requirements of this title.

Claims 1-40 are rejected under 35 U.S.C. 101 as being directed to non-statutory

subject matter. The language of the claims raises a question as to whether the claims

are directed merely to an environment or machine which would result in a practical

application producing a concrete useful, and tangible result to form the basis of statutory

subject matter under 35 U.S.C. 101.

Claims 1-40 are rejected because the actions being performed in these claims do

not provide any tangible results.

Claims 20-40 are rejected because they appear to be program per se and it is

unclear whether these computer readable program instructions are stored on a

computer readable storage medium.

To expedite a complete examination of the instant application the claims rejected

under U.S.C. 101 (nonstatutory) above are further rejected as set forth below in

anticipation of application amending these claims to place them within the four

categories of invention.

Claim Rejections - 35 USC § 102

5.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-40 are rejected under 35 U.S.C. 102(b) as being anticipated by **Chau et**

al. (Chau hereinafter) (U.S. PGPub No. 2002/0156772).

With respect to claim 1, **Chau** teaches **a method for searching for one or more**

logical elements in a hierarchical tree structure of an extended markup language

document conforming to a schema used for XML, comprising:

"**providing a representation of an extended markup language document**

instance containing two or more logical elements, wherein at least one logical

element is a parent node and at least one logical element is a child node in a

hierarchical tree structure describing the representation" as XML Path or XPath

addresses parts of an XML document. XPath gets its name from its use of a path

notation as in URLs for navigating through the hierarchical structure of an XML

document (**Chau** Paragraph 0042). Represents the element with the name tagn which

is a child of the descending chain from root, tag1, tag2, . . . where tag3 has the value

"Los Angeles" (**Chau** Paragraph 0112).

"**receiving a query for logical elements satisfying an Xpath expression**" as

the XML System also allows overrides of query conditions explicitly or implicitly defined

in the DAD, by parsing the SQL or XML XPath based override parameter to the

composition stored procedures (**Chau** Paragraph 0080).

"**searching in the hierarchical tree structure only nodes that potentially**

have child nodes satisfying the Xpath expression" as the side tables are created by

the DAD, and indices are created for columns in the side tables. Therefore, the search

will be fast with indexing. Note that the invoice_number is the primary key in the

application table sales_tab. The advantage of direct query with sub-query is better

performance. When side tables have parent-children relationships, direct query with

sub-query often make more sense (**Chau** Paragraph 0335 & 0336). Represents the

element with the name tagn, which is a child of the descending chain from root, tag1,

tag2, . . . where tag3 has the value "Los Angeles" (**Chau** Paragraph 0112). The FROM

clause defines the tables containing the data, and the WHERE clause specifies the join

and search conditions (**Chau** Paragraph 0679). Examiner interprets that every node in

this reference has a potential child nodes.

Claim 20 is essentially the same as claim 1 except that it sets forth the claimed

invention as a computer program product and is rejected for the same reason as

applied hereinabove.

With respect to claims 2 & 3, **Chau** teaches **"the method of claim 1, including

the further step of generating a collection of parent nodes that potentially have

child nodes satisfying the Xpath expression from a table relating a class of parent

nodes/parent nodes and a class of child nodes/child nodes, and wherein the table

is used in the final searching step"** as for the root element_node, all tables storing its

attribute or all child element data should be specified (**Chau** Paragraph 0164).

Representing an XML element. It must be defined in the specified DTD. For the

RDB_node mapping, the root element_node must have a RDB_node to specify all

tables containing XML data for itself and all its children nodes. It can have zero or more

attribute_nodes and child element_nodes, as well as zero or one text_node (**Chau** Paragraph 0176).

Claims 21 & 22 are essentially the same as claims 2 & 3 except that they set forth the claimed invention as a computer program product and are rejected for the same reason as applied hereinabove.

With respect to claims 4 & 5, **Chau** teaches **"the method of claim 2, wherein the table comprises entries containing hash representations of a class of parent nodes/parent nodes and a class of child nodes/child nodes"** as levelmap is an associative array that maps column names to their equivalence class numbers or "relational level." The equivalence classes in ascending order of relational levels should have one-to-many relationship between each adjacent classes with the "many" side at the upper level. In the example, "order_key" maps to 0; "part_key" maps to 1; and "date" maps to 2. The associative array can be implemented in memory, for example, as a hash table, a sorted array, or a binary search tree (**Chau** Paragraph 0699). Create a hash table or stored array of all top_elements rel->top_elements for fast search (**Chau** Paragraph 0941).

Claims 23 & 24 are essentially the same as claims 4 & 5 except that they set forth the claimed invention as a computer program product and are rejected for the same reason as applied hereinabove.

With respect to claim 6 & 7, **Chau** teaches **"the method of claim 2, wherein the table comprises a listing of permitted classes of child nodes/child nodes for each class of parent node/parent node"** as for the root element_node, all tables storing its attribute or all child element data should be specified (**Chau** Paragraph 0164). Representing an XML element. It must be defined in the specified DTD. For the RDB_node mapping, the root element_node must have a RDB_node to specify all tables containing XML data for itself and all its children nodes. It can have zero or more attribute_nodes and child element_nodes, as well as zero or one text_node (**Chau** Paragraph 0176 & 0119). Tables contain lists of data, therefore this reference contain table with lists of root/parent nodes and children nodes. Examiner refers these non restricted paths as permitted paths.

Claims 25 & 26 are essentially the same as claims 6 & 7 except that they set forth the claimed invention as a computer program product and are rejected for the same reason as applied hereinabove.

With respect to claim 8 & 9, **Chau** teaches **"the method of claim 2, wherein the table comprises a listing of permitted classes of parent nodes/parent nodes for each class of child node/child node"** as as for the root element_node, all tables storing its attribute or all child element data should be specified (**Chau** Paragraph 0164). Representing an XML element. It must be defined in the specified DTD. For the

RDB_node mapping, the root element_node must have a RDB_node to specify all tables containing XML data for itself and all its children nodes. It can have zero or more attribute_nodes and child element_nodes, as well as zero or one text_node (**Chau** Paragraph 0176 & 0119). Tables contain lists of data, therefore this reference contain table with lists of root/parent nodes and children nodes. Examiner refers these non restricted paths as permitted paths.

Claims 27, 28, 35 & 36 are essentially the same as claims 8 & 9 except that they set forth the claimed invention as a computer program product and are rejected for the same reason as applied hereinabove.

With respect to claim 10 & 11, **Chau** teaches **"the method of claim 1, further comprising:**

"receiving a rule set identifying allowable combinations between child nodes and parent nodes in a hierarchical document structure" as Extensible Markup Language (XML) is a set of rules or guidelines for designing text formats for structured data using tags (**Chau** Paragraph 0040). Represents the element with the name tagn which is a child of the descending chain from root, tag1, tag2, . . . where tag3 has the value "Los Angeles" (**Chau** Paragraph 0112 & 0119). Examiner refers these non-restricted paths as permitted paths and these permitted paths contain allowable combinations.

"transforming the rule set into a table relating a class of parent nodes/parent nodes and a class of child nodes/child nodes" as the element with the name tagn which is a child of the descending chain from root, tag1, tag2, . . . where tag3 has the value "Los Angeles" (**Chau** Paragraph 0112 & 0119). A transformation expressed in XSLT describes rules for transforming a source tree into a result tree (**Chau** Paragraph 0041).

"using the table in the final searching step" as the side tables are created by the DAD, and indices are created for columns in the side tables. Therefore, the search will be fast with indexing. Note that the invoice_number is the primary key in the application table sales_tab. The advantage of direct query with sub-query is better performance. When side tables have parent-children relationships, direct query with sub-query often make more sense (**Chau** Paragraph 0335 & 0336).

Claims 29 & 30 are essentially the same as claims 10 & 11 except that they set forth the claimed invention as a computer program product and are rejected for the same reason as applied hereinabove.

With respect to claim 12 & 13, **Chau** teaches **"the method of claim 10, wherein: the rule set includes one of: an XML schema, a DTD, and a RelaxNg schema"** as Extensible Markup Language (XML) is a set of rules or guidelines for designing text formats for structured data using tags (**Chau** Paragraph 0040).

Claims 31 & 32 are essentially the same as claims 12 & 13 except that they set

forth the claimed invention as a computer program product and are rejected for the

same reason as applied hereinabove.

With respect to claim 14 & 15, **Chau** teaches **"the method of claim 2, wherein**

the table includes a listing of a not-permitted class of child nodes/child nodes for

each class of parent node/parent node" as there are restrictions on the location path

when used by the XML systems, and these are listed in the table below (**Chau**

Paragraph 0115). The location path includes both parents and child nodes. Therefore

the restricted path will not permit the listing of it parent and child nodes.

Claims 33 & 34 are essentially the same as claims 14 & 15 except that they set

forth the claimed invention as a computer program product and are rejected for the

same reason as applied hereinabove.

With respect to claim 16 & 17, **Chau** teaches **"the method of claim 2, wherein**

the table includes a listing of a not-permitted class of parent nodes/parent nodes

for each class of child node/child node" as there are restrictions on the location path

when used by the XML systems, and these are listed in the table below (**Chau**

Paragraph 0115). The location path includes both parents and child nodes. Therefore

the restricted path will not permit the listing of it parent and child nodes.

Claims 37 & 38 are essentially the same as claims 16 & 17 except that they set

forth the claimed invention as a computer program product and are rejected for the

same reason as applied hereinabove.

With respect to claim 18 & 19 **Chau** teaches **the method of claim 1, further**

comprising the additional steps of:

"receiving a rule set identifying non-allowable combinations between child

nodes and parent nodes in a hierarchical document structure" as Extensible

Markup Language (XML) is a set of rules or guidelines for designing text formats for

structured data using tags (**Chau** Paragraph 0040). There are restrictions on the

location path when used by the XML systems, and these are listed in the table below

(**Chau** Paragraph 0115). The location path includes combination of parents and child

nodes. Therefore the restricted path will not permit the any combination of it parent and

child nodes.

"transforming the rule set into a table relating a class of parent

nodes/parent node and a class of child nodes/child nodes" as a transformation

expressed in XSLT describes rules for transforming a source tree into a result tree

(**Chau** Paragraph 0041). The term simple location path refers to the c and f notations in

the table for Restriction of Location Path Supported. The simple location path is a

sequence of element type names connected by the "/" notation. Each element type

may be qualified by its attribute values (**Chau** Paragraph 0117).

Claims 39 & 40 are essentially the same as claims 18 & 19 except that they set

forth the claimed invention as a computer program product and are rejected for the

same reason as applied hereinabove.

Conclusion

6.   The prior art made of record and not replied upon is considered pertinent to

applicant's disclosure is listed on 892 form.

Contact Information

7.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Usmaan Saeed whose telephone number is (571)272-

4046. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Hosain Alam can be reached on (571)272-3978. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

Usmaan Saeed
Patent Examiner
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US
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